

**NATURAL HERITAGE  
PROGRAM LIST  
OF THE RARE  
ANIMAL SPECIES  
OF NORTH  
CAROLINA**

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Compiled By  
Harry E. LeGrand, Jr.,  
Zoologist

North Carolina Natural Heritage Program  
Division of Parks and Recreation  
N. C. Department of Environment, Health, and Natural Resources 1991





NATURAL HERITAGE PROGRAM LIST OF THE RARE ANIMALS OF NORTH CAROLINA  
Edition of April 1991

compiled by Harry E. LeGrand Jr., Zoologist  
North Carolina Natural Heritage Program  
Department of Environment, Health, and Natural Resources

The attached list of animals represents those species of vertebrates and invertebrates for which the N.C. Natural Heritage Program is currently collecting data -- in files, on computer, and on topographic maps. This is not strictly a list of protected animals; in fact, the majority of these species receive no formal protection whatsoever. Rather, it is a list of species that are endangered, threatened, or otherwise occur in small or unknown numbers in the state. The primary functions of the list are its use: 1) in environmental assessments to "flag" rare species and their locations that might be negatively affected by proposed actions; 2) in the determination of priorities for protection of natural areas that contain such "listed" animals; and 3) in the determination of priorities of inventory and protection for these animals, including the proposed listing of species for federal or state protection.

This overall list is based primarily on two sources. The majority of the vertebrates on the list are those species that are currently listed, or are proposed for listing, for state protection by the Wildlife Resources Commission. Scientific councils for mammals, birds, reptiles and amphibians, freshwater fishes, and mollusks have already submitted their lists of State Endangered, Threatened, and Special Concern species. All of these species are included on this list, with the corresponding status listed in the "N.C. Status" column. In addition, the Natural Heritage Program is tracking other rare vertebrates and mollusks not given a formal State (E, T, or SC) designation; these species are listed as "Significantly Rare," "Vulnerable," or of "Undetermined" status. Species of invertebrates (other than mollusks) are primarily those listed in the Symposium on Endangered and Threatened Plants and Animals of North Carolina, published in 1977. The butterfly list and the dragonfly list are those prepared by the N.C. Natural Heritage Program, in consultation with other biologists in the state. Only those animals with legal Federal or State protection are given an Endangered Threatened, or Special Concern status in this list; all others are given a status of Significantly Rare, Vulnerable, or Undetermined. Thus, the E, T, and SC status of most of the invertebrates in the above symposium have been changed to SR (Significantly Rare) or UNK (Undetermined or Unknown) for the purposes of this list, because they are not yet given any formal protection.

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This list is dynamic, being revised frequently as further data become available. New species are added to the list, and others are dropped from the list for various reasons. The list will be revised at least once a year. If you are using a copy of this list which is more than a year old (check the edition date at the top of the first page), it is invalid and you should request a new version. Further information on these species may be obtained by contacting the North Carolina Natural Heritage Program, Department of Environment, Health, and Natural Resources, P.O. Box 27687, Raleigh, NC 27611-7687 or the North Carolina Wildlife Resources Commission, 512 North Salisbury Street, Raleigh, NC 27611.

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As of this writing (April 1991), E, T, and SC species of mammals, birds, reptiles, amphibians, and mollusks are protected by state law, under the jurisdiction of the N.C. Wildlife Resources Commission. The list of freshwater fishes for state protection has been submitted to the Wildlife Resources Commission but has not yet been adopted; legal protection for these animals is expected by late 1991. The prefix "P" (Proposed) is added to all such fish species. The list of rare marine and estuarine fishes was presented in 1988 by that scientific council; however, state protection does not cover marine and estuarine animals and is not under the jurisdiction of the Wildlife Resources Commission. Except for the Federally Endangered Shortnose Sturgeon, all other marine and estuarine fishes were listed in 1988 as "Vulnerable, Category 2". That status is maintained in this animal list, with the exception of the Atlantic Sturgeon. Because this species also occurs in fresh waters, it was recommended by the Scientific Council on Freshwater Fishes for Special Concern status.

**LIST FORMAT.** Species are grouped by major taxa. The vertebrates are arranged by class, beginning with the most advanced phylogenetically (mammals). Within a given taxa, species are listed alphabetically by scientific name. The following information is presented for each species on the list.

**Scientific Name.**

**Common Name.** For most groups, these names are not standardized.

**North Carolina Status.** Endangered, Threatened, and Special Concern species of Mammals, Birds, Reptiles, Amphibians, and Mollusks have legally protected status in North Carolina (Wildlife Resources Commission). Legal protection for E, T, and SC freshwater fishes is expected by late 1991. In addition to the above categories, the Natural Heritage Program maintains computer and map files on Significantly Rare, Vulnerable, and Undetermined status species, as well as species considered Extirpated. Paper files only are maintained for some of the above species; these species are indicated by the phrase "not tracking".

**E = Endangered.** Any native or once-native species of wild animal whose continued existence as a viable component of the State's fauna is determined by the Wildlife Resources Commission to be in jeopardy or any species of wild animal determined to be an 'endangered species' pursuant to the Endangered Species Act.

**T = Threatened.** Any native or once-native species of wild animal which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, or one that is designated as a threatened species pursuant to the Endangered Species Act.

**SC = Special Concern.** Any species of wild animal native or once-native to North Carolina which is determined by the Wildlife Resources Commission to require monitoring but which may be taken under regulations adopted under the provisions of this Article (Article 25 of Chapter 113 of the General Statutes).

**SR = Significantly Rare.** Any other species which has not been determined as an Endangered, Threatened, or Special Concern species, but which exists in the state in small numbers and has been determined to need monitoring. (This is a N.C. Natural Heritage Program designation.)

V = Vulnerable. A relatively rare species with significant problems at present or anticipated in the near future. (Used only for Marine and Estuarine Fishes in this animal list.)

UNK = Undetermined (Unknown). A species for which insufficient data are available for precise assessment. (This is a N.C. Natural Heritage Program designation.)

EX = Extirpated. A species which is no longer believed to occur in the state.

P\_ = Proposed for state listing, but not yet official (PE = Proposed Endangered; PT = Proposed Threatened; PSC = Proposed Special Concern).

\* = Species is a game animal, and therefore (by law) cannot be listed for State protection as E, T, or SC.

# = Species proposed for Endangered status, but not adopted by the Wildlife Resources Commission; species is protected from take.

@ = Species proposed for Special Concern status, but not adopted by the Wildlife Resources Commission; species is protected from take.

United States Status (as designated by the U.S. Fish and Wildlife Service)

E = Endangered. A taxon that is threatened with extinction throughout all or a significant portion of its range.

T = Threatened. A taxon that is likely to become endangered in the foreseeable future.

C1 = Candidate 1. A taxon for which the Fish and Wildlife Service has on file enough substantial information to list as endangered or threatened. Listing is "warranted but precluded by other pending proposals of higher priority." The Fish and Wildlife Service is "directed to make prompt use of the emergency listing provisions if the wellbeing of any such species is at significant risk."

C2 = Candidate 2. A taxon for which there is some evidence of vulnerability, but for which there are not enough data to support listing as endangered or threatened at this time. Listing is "warranted but precluded by other pending proposals of higher priority." The Fish and Wildlife Service is "directed to make prompt use of the emergency listing provisions if the wellbeing of any such species is at significant risk."

C1\*, C2\* = A candidate, but lacking known occurrences

3A = Candidate 3A. A taxon for which the Fish and Wildlife Service has persuasive evidence of extinction.

3B = Candidate 3B. A name that, on the basis of current taxonomic understanding, does not represent a distinct taxon.

3C = Candidate 3C. A taxon that has proven to be more abundant or widespread than previously believed and/or those that are not subject to any identifiable threat. They may be reevaluated for possible inclusion in categories 1 or 2.

L\_ = Listed. Species currently listed, as either endangered or threatened.

P\_ = Proposed. Species currently proposed, as either endangered or threatened. Species formally proposed receive some legal protection.

North Carolina Rank. North Carolina ranks are based on The Nature Conservancy's system of measuring rarity and threat status. This system is now widely used by other agencies and organizations, as the best available scientific and objective assessment of a species' rarity at the state level.

S1 = Critically imperiled in North Carolina because of extreme rarity (5 or fewer occurrences or very few remaining individuals) or because of some factor(s) making it especially vulnerable to extirpation from North Carolina.

S2 = Imperiled in North Carolina because of rarity (6 to 20 occurrences or few remaining individuals) or because of some factor(s) making it very vulnerable to extirpation from North Carolina.

S3 = Rare or uncommon in North Carolina (on the order of 21 to 100 occurrences).

S4 = Apparently secure in North Carolina, with many occurrences.

S5 = Demonstrably secure in North Carolina and essentially ineradicable under present conditions.

SA = Accidental or casual; one to several records for North Carolina, but the state is outside the normal range of the species.

SH = Of historical occurrence in North Carolina, perhaps not having been verified in the past 20 years, and suspected to be still extant.

SR = Reported from North Carolina, but without persuasive documentation which would provide a basis for either accepting or rejecting the report.

SX = Apparently extirpated from North Carolina.

SU = Possibly in peril in North Carolina but status uncertain; need more information.

S? = Unranked, or rank uncertain.

B = Rank of the breeding population in the state. Used for migratory species only.

N = Rank of the non-breeding population in the state. Used for migratory species only.

Z = Population is not of significant conservation concern. For example, the status "SZN" indicates that the population in the non-breeding seasons (generally in migration or in winter) is transitory, without any regular locales of occurrence whereby the species can be protected. Where a number is listed with the "B" or "N" modifier, there are definable locales of occurrence that can be identified for protection.

Global Rank. Similar to North Carolina ranks, global ranks are assigned by a consensus of scientific experts, the various natural heritage programs, and The Nature Conservancy. They apply to the status of a species throughout its range, and are based on data on the species' status rangewide. This system is now widely used by other agencies and organizations, as the best available scientific and objective assessment of a species' rarity throughout its range.

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals) or because of some factor(s) making it especially vulnerable to extinction.

G2 = Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals) or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3 = Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single physiographic region) or because of other factors making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.

G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GH = Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered.

GX = Believed to be extinct throughout its range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered.

GU = Possibly in peril range-wide, but status uncertain; need more information.

G? = Unranked, or rank uncertain.

G\_Q = Questionable taxonomic assignment.

T\_ = The rank of a subspecies or variety. As an example, G4T1 would apply to a subspecies of a species with an overall rank of G4, but the subspecies warranting a rank of G1.

Physiographic Province. The provinces in which the animal is known to occur are indicated. This should not be regarded as the only province(s) of the state in which the species could occur; our knowledge of the fauna of North Carolina, especially the invertebrates, is still very imperfect. The provinces are abbreviated as follows:

M = Mountains. All parts of North Carolina west of the foot of the Blue Ridge Escarpment.

P = Piedmont. All parts of North Carolina east of the foot of the Blue Ridge Escarpment and west of the Fall Line, including outlying "foothill" ranges, such as the Brushy, Uwharrie, and Sauratown mountains.

C = Coastal Plain. All parts of North Carolina east of the Fall Line (including the Sandhills), but excluding the portions associated with tidal water (ocean, sounds, barrier islands, and mainland brackish or salt marshes).

T = Tidewater. That part of the state associated with tidal water, such as the ocean and barrier islands, sounds, estuaries, and mainland brackish or salt marshes.

Habitat. The known, or the most typical, habitats are described briefly; as with provinces, these should not be regarded as the only possible habitats of the species in the state.

Scientific Name Province: Habitat	Common Name	N.C. Status	U.S. Status	N.C. Rank	Global Rank
MAMMALS					
<i>Canis rufus</i> C: swamps, pocosins, extensive forests	Red Wolf	E	LE	1 S1	1 G1
<i>Condylura cristata parva</i> MC: moist meadows, bogs, swamps, bottomlands [Coastal Plain population is SC; mountain population not of concern]	Star-nosed Mole	SC	3C	S4	G5
<i>Felis concolor cougar</i> MPC: extensive forests, remote areas	Eastern Cougar (Panther, Mountain Lion)	E	LE	SH	G4TH
<i>Glaucomys sabrinus coloratus</i> M: high elevation forests, mainly spruce-fir	Carolina Northern Flying Squirrel	E	LE	S1	G5T1
<i>Microsorex</i> (see <i>Sorex</i> )					
<i>Microtus chrotorrhinus carolinensis</i> M: rocky areas at high elevations, forests or fields	Southern Rock Vole	SC	C2	S2	G5T3
<i>Myotis austroriparius</i> CP: roosts in buildings, hollow trees; forages near water	Southeastern Bat	SC	C2	S2	G4
<i>Myotis grisescens</i> M: roosts in caves; forages mainly over open water	Gray Bat	E	LE	SA	G2
<i>Myotis leibii leibii</i> M: roosts in hollow trees (warmer months), in caves and mines (winter)	Eastern Small-footed Bat	SC	C2	SUB,S1N	G3
<i>Myotis septentrionalis</i> (= <i>M. keenii</i> ) MP: roosts in hollow trees and buildings (warmer months), in caves and mines (winter)	Northern Long-eared Bat	SC		SUB,S2N	G4
<i>Myotis sodalis</i> M: roosts in hollow trees or under loose bark (warmer months), in caves (winter)	Indiana Bat	E	LE	SUB,S2N	G2
<i>Neotoma floridana haemitoria</i> ; <i>Neotoma floridana magister</i> M: rocky places in deciduous or mixed forests	Eastern Woodrat	SC	C2	S2	G5T?
<i>Neotoma floridana floridana</i> [Coastal Plain race] C: forests, mainly in moist areas	Eastern Woodrat	T		S1	G5T?
<i>Peromyscus polionotus</i> P: sandy, fallow fields near South Carolina line	Old-field Mouse	SR		S1	G5
<i>Plecotus rafinesquii</i> MC: roosts in old buildings, caves, and mines, usually near water	Rafinesque's Big-eared Bat	SC	C2	S3	G4
<i>Plecotus townsendii virginianus</i> M: roosts in caves, especially in limestone areas	Virginia Big-eared Bat	E	LE	S1	G5T2

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Re-introduction, at Alligator River NWR, NC

<i>Sciurus niger</i> CPM: open forests, mainly longleaf pine/scrub oak	Fox Squirrel	SR*		S3	G5
<i>Sorex dispar</i> M: high elevation forests with talus or rocky slopes	Long-tailed Shrew	SC	C2	S2	G5
<i>Sorex hoyi winnemana</i> (= <i>Microsorex</i> ) M: montane deciduous forests	Southern Pygmy Shrew	SC	C2	S1	G5T5
<i>Sorex longirostris fisheri</i> C: woodlands and brushy fields, especially where damp, in Dismal Swamp vicinity	Dismal Swamp Southeastern Shrew	T	LT	S1	G5T1T3
<i>Sorex palustris punctulatus</i> M: stream banks in montane forests	Southern Water Shrew	SC	C2	S1	G5T3
<i>Sylvilagus aquaticus</i> M: wet woods and floodplains in southern mountains	Swamp Rabbit	SR*		SH	G5
<i>Sylvilagus transitionalis</i> M: dense cover of montane woods and thickets	New England Cottontail	SR*	C2	S3	G4
<i>Tadarida brasiliensis</i> C: roosts in buildings and other man-made structures	Brazilian Free-tailed Bat	SC		SUB,S2N	G4
<i>Trichechus manatus</i> T: warm waters of estuaries and river mouths	Florida Manatee	E	LE	S1N	G2?
<i>Ursus americanus</i> MC: extensive montane forests; pocosins, swamps	Black Bear	SR*		S3	G5

#### BIRDS

<i>Accipiter cooperii</i> MPC: forests and woodlands (for nesting) [breeding evidence only]	Cooper's Hawk	SC		S2B,S3N	G4
<i>Accipiter striatus</i> MP: forests and woodlands (for nesting) [breeding evidence only]	Sharp-shinned Hawk	SR		S2B,S4N	G5
<i>Aegolius acadicus</i> M: spruce-fir forests or mixed hardwood/spruce forests (for nesting) [breeding season only]	Northern Saw-whet Owl	SC		S2B,S2N	G5
<i>Aimophila aestivalis</i> CP: open longleaf pine forests, old fields [breeding season only]	Bachman's Sparrow	SC	C2	S3B,S2N	G3
<i>Ammodramus henslowii</i> C: clearcut pocosins and other damp weedy fields [breeding season only]	Henslow's Sparrow	SR		S2B,S1N	G4
<i>Anhinga anhinga</i> C: wooded lakes or ponds, or open swamps (for nesting) [breeding evidence only]	Anhinga	SR		S2B,S2N	G5
<i>Aquila chrysaetos</i> MC: extensive open country; formerly nested on cliffs [regular wintering or summering sites]	Golden Eagle	SR		SXB?,S1N	G4
<i>Botaurus lentiginosus</i> CT: fresh or brackish marshes [breeding season only]	American Bittern	SR		S1B,S3N	G4

<i>Campephilus principalis</i> C: swamps with mature timber [not tracking; presumed extirpated in USA]	Ivory-billed Woodpecker	E	LE	SX	G1
<i>Catharus guttatus</i> M: spruce-fir forests (for nesting) [breeding season only]	Hermit Thrush	SR		S1B,S5N	G5
<i>Charadrius melodius</i> T: ocean beaches and island-end flats [breeding evidence only]	Piping Plover	T	LT	S2B,S2N	G2
<i>Chondestes grammacus</i> C: barren, sandy fields with scattered saplings in the sandhills region [breeding season only]	Lark Sparrow	SR		S1B,S2N	G5
<i>Circus cyaneus</i> T: extensive brackish marshes (for nesting) [breeding evidence only]	Northern Harrier	SR		S1B,S4N	G5
<i>Coccyzus erythrophthalmus</i> M: deciduous forests, mainly at higher elevations [breeding season and habitat only]	Black-billed Cuckoo	SR		S2B,S2N	G5
<i>Columbina passerina</i> T: dunes, sandy fields, margins of maritime woods and thickets [breeding season only]	Common Ground-Dove	SR		S1B,S1N	G5
<i>Contopus borealis</i> M: montane conifer forests (mainly spruce-fir) with openings or dead trees [breeding season only]	Olive-sided Flycatcher	SC		S1B,S2N	G5
<i>Coragyps atratus</i> MPC: forested areas for nesting; forests or open country for foraging [not tracking]	Black Vulture	SC		S3	G5
<i>Corvus corax</i> MP: cliffs for nesting; forests or fields (mainly at high elevations) for foraging [breeding evidence only]	Common Raven	SR		S3	G5
<i>Coturnicops noveboracensis</i> TC: brackish or fresh marshes, wet fields [winter season only]	Yellow Rail	UNK		S2N	G4
<i>Dendroica cerulea</i> MC: mature hardwood forests; steep slopes and coves in mountains, natural levees in Coastal Plain [breeding season only]	Cerulean Warbler	SR		S3B,S2N	G5
<i>Dendroica kirtlandii</i> PC: [not tracked; a casual or accidental migrant]	Kirtland's Warbler	E	LE	SA	G1
<i>Dendroica magnolia</i> M: spruce-fir forests, especially in immature stands [breeding season only]	Magnolia Warbler	SR		S1B,S2N	G5
<i>Egretta caerulea</i> T: forests or thickets on maritime islands [breeding sites only]	Little Blue Heron	SC		S3B,S3N	G5
<i>Egretta thula</i> T: forests or thickets on maritime islands [breeding sites only]	Snowy Egret	SC		S3B,S3N	G5

<i>Egretta tricolor</i> T: forests or thickets on maritime islands [breeding sites only]	Tricolored Heron	SC		S3B, S3N	G5
<i>Empidonax alnorum</i> M: high elevation shrub/sapling thickets [breeding season only]	Alder Flycatcher	SR		S2B, S2N	G5
<i>Falco peregrinus</i> MT: cliffs (for nesting); coastal ponds and mudflats (for foraging in winter) [nesting evidence; regular wintering sites]	Peregrine Falcon	E	LE	S1B, S2N	G3
<i>Haliaeetus leucocephalus</i> PCT: mature forests near large bodies of water (for nesting); lakes and sounds [nesting sites; regular non-breeding sites]	Bald Eagle	E	LE	S1B, S2N	G3
<i>Himantopus mexicanus</i> T: fresh or brackish ponds and impoundments [breeding sites only]	Black-necked Stilt	SR		S2B	G5
<i>Ictinia mississippiensis</i> C: mature, extensive bottomland forests, mainly in Roanoke River floodplain [regular summer locations only]	Mississippi Kite	SR		S1B	G5
<i>Lanius ludovicianus migrans</i> ; <i>Lanius l. ludovicianus</i> CPM: fields and pastures [not tracking; <u>migrans</u> is C2 candidate, <u>ludovicianus</u> is not]	Loggerhead Shrike	SC	C2	S2B, S3N	G4
<i>Laterallus jamaicensis</i> TCP: brackish marshes, rarely fresh marshes [breeding season only]	Black Rail	SR		S3B, S2N	G4?
<i>Mycteria americana</i> T: fresh or brackish ponds (for foraging) [regular non-breeding sites]	Wood Stork	E	LE	S1N	G5
<i>Parus atricapillus</i> M: high elevation forests, mainly spruce-fir [breeding season only]	Black-capped Chickadee	SC		S3	G5
<i>Passerculus sandwichensis</i> M: grassy fields and pastures [breeding season only]	Savannah Sparrow	SR		S1B, S5N	G5
<i>Pelecanus occidentalis</i> T: maritime islands [breeding sites only]	Brown Pelican	SC		S3B, S4N	G5
<i>Phalacrocorax auritus</i> CP: lakes with scattered trees for nesting [breeding sites only]	Double-crested Cormorant	SR		S1B, S5N	G5
<i>Picoides borealis</i> CP: mature open pine forests, mainly in longleaf pine [breeding evidence only]	Red-cockaded Woodpecker	E	LE	S2	G2
<i>Plegadis falcinellus</i> T: forests or thickets on maritime islands [breeding sites only]	Glossy Ibis	SC		S2B, S1N	G5
<i>Porphyryula martinica</i> C: freshwater ponds with floating vegetation [breeding sites only]	Purple Gallinule	SR		S1B	G5

<i>Regulus satrapa</i> M: spruce-fir forests; hardwood forests mixed with spruce or hemlock [not tracking]	Golden-crowned Kinglet	SC		S3B,S5N	G5
<i>Riparia riparia</i> P: high, vertical banks for nesting [breeding sites only]	Bank Swallow	SR		SHB,S2N	G5
<i>Rynchops niger</i> T: sand flats on maritime islands [breeding sites only]	Black Skimmer	SC		S3B,S3N	G5
<i>Sphyrapicus varius</i> M: mature, open hardwoods with scattered dead trees [breeding season only]	Yellow-bellied Sapsucker	SR		S2B,S5N	G5
<i>Sterna caspia</i> T: sand flats on maritime islands [breeding sites only]	Caspian Tern	SR		S1B,S2N	G5
<i>Sterna dougallii dougallii</i> T: sand flats on maritime islands [breeding evidence only]	Roseate Tern	E	LE	SAB,S1N	G3
<i>Sterna nilotica</i> T: sand flats on maritime islands [breeding sites only]	Gull-billed Tern	T		S3B,S2N	G5
<i>Thryomanes bewickii altus</i> M: woodland borders or openings, farmlands or brushy fields, at high elevations [breeding season only]	Appalachian Bewick's Wren	E	C1	SHB,S2N	G5
<i>Vermivora bachmanii</i> P: [not tracking; accidental visitor]	Bachman's Warbler	E	LE	A	G1
<i>Vermivora pinus</i> M: low elevation brushy fields and thickets [breeding season only]	Blue-winged Warbler	SR		S2B,S2N	G5
<i>Vireo gilvus</i> M: groves of hardwoods along rivers and streams [breeding season only]	Warbling Vireo	SR		S2B,S2N	G5

#### REPTILES

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<i>Alligator mississippiensis</i> CT: fresh to slightly brackish lakes, ponds, rivers, and marshes	American Alligator	T	T(S/A)	S3	G5
<i>Apalone spinifera spinifera</i> M: large streams in the French Broad system	Eastern Spiny Softshell	SC		S1	G5T5
<i>Caretta caretta</i> T: nests on beaches; forages in ocean and sounds	Loggerhead	T	LT	S2B,S2N	G3
<i>Chelonia mydas</i> T: nests on beaches; forages in ocean and sounds	Green Turtle	T	LT	S1B,S2N	G3
<i>Clemmys muhlenbergii</i> MP: bogs, wet pastures, wet thickets	Bog Turtle	T	C2	S2	G4

<i>Crotalus adamanteus</i> C: pine flatwoods, savannas, pine-oak sandhills	Eastern Diamondback Rattlesnake	SR#		S1	G5
<i>Dermochelys coriacea</i> T: oceans, rarely in sounds	Leatherback	E	LE	SZN	G3
<i>Eretmochelys imbricata</i> T: oceans, very rarely in sounds	Hawksbill	E	LE	SZN	G3
<i>Lampropeltis getula sticticeps</i> T: maritime forests, thickets, and grasslands on the Outer Banks	Outer Banks Kingsnake	SC		S2	G5T2Q
<i>Lepidochelys kempii</i> T: ocean and sounds	Ridley	E	LE	SZN	G1
<i>Malaclemys terrapin</i> T: salt or brackish marshes; estuaries [not tracking]	Diamondback Terrapin	SC	C2	S3	G5
<i>Micrurus fulvius</i> C: pine-oak sandhills, sandy flatwoods, maritime forests	Eastern Coral Snake	SR#		S1	G5
<i>Nerodia sipedon williamengelsi</i> T: salt or brackish marshes	Carolina Salt Marsh Snake	SC		S2	G5T2
<i>Opheodrys vernalis</i> M: fields and grassy meadows	Smooth Green Snake	SC		SH	G5
<i>Ophisaurus mimicus</i> C: pine flatwoods, savannas, pine/oak sandhills	Mimic Glass Lizard	SC		S2	G3
<i>Pituophis melanoleucus melanoleucus</i> CM: dry and sandy woods, mainly in pine/oak sandhills	Northern Pine Snake	SC	C2	S3	G5T?
<i>Sistrurus miliarius</i> CP: pine flatwoods, pine/oak sandhills, other pine/oak forests	Pigmy Rattlesnake	SRQ		S3	G5
<i>Sternotherus minor</i> [S. m. peltifer] M: streams and rivers in Mississippi drainage	Loggerhead Musk Turtle [Stripeneck Musk Turtle]	SC		S1	G5

#### AMPHIBIANS

<i>Ambystoma talpoideum</i> MP: breeds in fish-free semipermanent woodland ponds; forages in adjacent woodlands	Mole Salamander	SC		S2	G5
<i>Ambystoma tigrinum</i> C: breeds in fish-free semipermanent ponds; forages in adjacent woods, usually sandy pinewoods	Tiger Salamander	T		S2	G5
<i>Aneides aeneus</i> M: damp, shaded crevices of cliffs or rock outcrops in deciduous forests	Green Salamander	E	C2	S1	G3G4
<i>Cryptobranchus alleganiensis</i> M: large and clear fast-flowing streams	Hellbender	SC	C2	S3	G4
<i>Desmognathus santeetlah</i> M: ?	Santeetlah Dusky Salamander	UNK		S2S3	G3Q
<i>Eurycea junaluska</i> M: forests near seeps and streams in the Cheoah River system	Junaluska Salamander	SC	C2	S2	G2Q

<i>Eurycea longicauda longicauda</i> M: moist woods and floodplains	Longtail Salamander	SC	S2	G5T5
<i>Eurycea quadridigitata</i> (part) C: pocosins, bay forests, flatwoods, savannas	Dwarf Salamander (silver morph)	SC	S2	G5T2?
<i>Hemidactylium scutatum</i> MPC: pools, bogs, and other wetlands in hardwood forests	Four-toed Salamander	SC	S3	G5
<i>Hyla andersonii</i> C: pocosins, bay forests, boggy areas	Pine Barrens Treefrog	SR	3C	S3 G4
<i>Necturus lewisi</i> PC: rivers and large streams in Neuse and Tar drainages (endemic to North Carolina)	Neuse River Waterdog	SC	3C	S3 G3
<i>Necturus maculosus</i> M: rivers and large streams (French Broad drainage)	Common Mudpuppy	SC	S1	G5
<i>Plethodon aureolus</i> M: forests in the Unicoi Mountains	Tellico Salamander	UNK	S2	G2G3Q
<i>Plethodon dorsalis</i> M: moist areas of talus slopes or rock outcrops in hardwood forests	Zigzag Salamander	SC	S1	G5Q
<i>Plethodon longicrus</i> M: cool rock crevices or talus slopes in Hickorynut Gorge area (endemic to North Carolina)	Crevice Salamander	SC	S1	G1Q
<i>Plethodon wehrlei</i> P: upland forests (on a monadnock in North Carolina)	Wehrle's Salamander	T	S1	G5
<i>Plethodon welleri</i> M: high elevation forests, mainly in spruce-fir	Weller's Salamander	SC	S2	G4
<i>Pseudacris brachyphona</i> M: forests near temporary pools or ponds	Mountain Chorus Frog	SC	S1	G5
<i>Rana areolata capito</i> C: breeds in temporary fish-free pools; forages in sandy woods, especially pine-oak sandhills	Carolina Crawfish Frog	SC	C2	S2 G4
<i>Rana heckscheri</i> C: river floodplains, such as pools or borrow pit ponds	River Frog	SC	S1	G5

#### FRESHWATER FISHES

<i>Acipenser brevirostrum</i> (see listing under Marine and Estuarine Fishes)				
<i>Acipenser fulvescens</i> M: large rivers of Tennessee drainages	Lake Sturgeon	PSC	C2	SRSX G3
<i>Acipenser oxyrhynchus</i> (see listing under Marine and Estuarine Fishes)				
<i>Ambloplites cavifrons</i> PC: streams in Neuse and Tar systems	Roanoke Bass	SR*	S3	G3
<i>Aplodinotus grunniens</i> M: French Broad River	Freshwater Drum	PT	S2	G5
<i>Carpiodes carpio</i> M: French Broad River	River Carpsucker	PSC	S1	G5

<i>Carpiodes velifer</i> PC: Catawba, Pee Dee, and Cape Fear rivers	Highfin Carpsucker	PSC		S1	G4G5
<i>Clinostomus funduloides</i> subsp. M: Little Tennessee drainage	Rosyside Dace (subspecies)	PSC		SU	G5TU
<i>Cottus carolinae</i> M: French Broad River system	Banded Sculpin	PT		S1	G5
<i>Elassoma boehlkei</i> C: streams and canals in Waccamaw drainage	Carolina Pygmy Sunfish	PT	C2	S1S2	G1G2
<i>Etheostoma acuticeps</i> M: streams in Nolichucky system (Toe and Cane rivers)	Sharphead Darter	PT	3C	S1	G3G4
<i>Etheostoma collis</i> P: streams in the Piedmont	Carolina Darter	PSC		S3	G3
<i>Etheostoma inscriptum</i> M: streams of Savannah drainage	Turquoise Darter	PSC		S1	G4
<i>Etheostoma jessiae</i> M: streams in Mills River system	Blueside Darter	PSC		S1	G4Q
<i>Etheostoma kanawhae</i> M: New drainage	Kanawha Darter	SR		S3	G3
<i>Etheostoma maculatum</i> (= <i>E. sanguifluum</i> ) (see <i>Etheostoma vulneratum</i> )					
<i>Etheostoma mariae</i> C: streams of Lumber drainage, mainly in the sandhills; perhaps in adjacent Pee Dee drainage	Pinewoods Darter	PSC	C2	S3	G3
<i>Etheostoma perlongum</i> C: Lake Waccamaw (endemic to North Carolina)	Waccamaw Darter	PT	3B	S1	G1Q
<i>Etheostoma podostemone</i> P: large streams in Dan River system	Riverweed Darter	PSC		S3	G3
<i>Etheostoma simoterum</i> M: streams of French Broad drainage (formerly)	Tennessee Snubnose Darter	PSC		SH	G5
<i>Etheostoma vulneratum</i> M: streams of Little Tennessee system; perhaps extirpated from French Broad system	Wounded Darter	PSC		S2	G2
<i>Exoglossum maxilllingua</i> P: streams of Dan River system	Cutlips Minnow	PE		S1	G5
<i>Fundulus waccamensis</i> C: large natural lakes (Lakes Waccamaw and Phelps) (endemic to North Carolina)	Waccamaw Killifish	PSC	C2	S1	G1
<i>Heterandria formosa</i> C: streams and lakes near Wilmington	Least Killifish	PSC		S2	G5
<i>Hiodon tergisus</i> M: French Broad River	Mooneye	PSC		S2	G5
<i>Hybopsis monacha</i> M: Little Tennessee River; formerly in French Broad drainage	Spotfin Chub	T	LT	S1	G2
<i>Hybopsis rubrifrons</i> M: Savannah drainage	Rosyface Chub	PT		S1	G4
<i>Hybopsis zanema</i> P: Catawba and Broad drainages	Santee Chub	SR		S3	G3?
<i>Hybopsis</i> , new species C: Cape Fear and Lumber drainages	Cape Fear Chub	PSC		S2	G2Q
<i>Lampetra aepyptera</i> CP: Tar and Neuse drainages	Least Brook Lamprey	PSC		S2	G5

Lampetra appendix M: French Broad drainage	American Brook Lamprey	PT		S1	G5
Lepomis megalotis M: French Broad drainage	Longear Sunfish	SR*		SH	G5
Lucania goodei C: stream in Wilmington area	Bluefin Killifish	PSC		S1	G5
Menidia extensa C: Lake Waccamaw (endemic to North Carolina)	Waccamaw Silverside	T	LT	S1	G1
Moxostoma ariommum P: Dan drainage	Bigeye Jumprock	PSC		S2	G2
Moxostoma carinatum (undescribed form) P: Pee Dee River	River Redhorse	PSC		S1	G4
Moxostoma hamiltoni P: Dan drainage	Rustyside Sucker	PE	3C	S1	G2
Notropis bifrenatus C: stream near lower Neuse River	Bridle Shiner	PSC		SH	G5
Notropis chrysocephalus M: Cane River system	Striped Shiner	PT		S1	G5
Notropis lutipinnis M: Savannah (primarily) and Little Tennessee drainages	Yellowfin Shiner	PSC		S2	G4
Notropis mekistocholas P: Cape Fear drainage (endemic to North Carolina)	Cape Fear Shiner	E	LE	S1	G1
Noturus eleutherus M: French Broad drainage	Mountain Madtom	PSC		SH	G5
Noturus flavus M: Cane River	Stonecat	PE		S1	G5
Noturus furiosus CP: Tar and Neuse drainages (endemic to North Carolina) [Neuse population is PSC; Tar population has no N.C. status]	Carolina Madtom	PSC	3C	S3	G3
Noturus gilberti P: Dan drainage	Orangefin Madtom	PE	C2	S1	G2
Noturus, new species C: Cape Fear, Waccamaw, and Lumber drainages	Broadtail Madtom	PSC		S2	G1G2
Percina burtoni M: South Toe River; formerly in French Broad drainage	Blotchside Darter	PE		S1	G2
Percina caprodes M: Tennessee drainages	Logperch	PT		S2	G5
Percina macrocephala M: French Broad River; probably extirpated	Longhead Darter	PSC	C2	SH	G3
Percina oxyrhyncha M: New drainage	Sharpnose Darter	PSC		S1	G4
Percina sciera M: French Broad drainage	Dusky Darter	PE		S1	G5
Percina squamata M: Tennessee drainages	Olive Darter	PSC	C2	S3	G3
Phenacobius teretulus M: New drainage	Kanawha Minnow	PSC	C2	S3	G3
Polyodon spathula M: French Broad River	Paddlefish	PE	3C	S1	G4

<i>Semotilus lumbee</i>	Sandhills Chub	PSC	C2	S3	G2G3
C: streams in the sandhills					
<i>Stizostedion canadense</i>	Sauger	SR*		S2	G5
M: French Broad and Hiwassee rivers					

#### MARINE AND ESTUARINE FISHES

<i>Acipenser brevirostrum</i>	Shortnose Sturgeon	E	LE	S1	G3
TC: brackish water of large rivers and estuaries; spawns in freshwater areas					
<i>Acipenser oxyrinchus</i>	Atlantic Sturgeon	PSC		S3	G3
TC: coastal waters, estuaries, large rivers					
<i>Eleotris pisonis</i>	Spinycheek Sleeper	V		S2	G5
T: fresh to brackish ponds, river mouths, and estuaries					
<i>Evorthodus lyricus</i>	Lyre Goby	V		S2	GU
T: shallow tidal water, especially pools in salt marshes					
<i>Gobionellus stigmaticus</i>	Marked Goby	V		S2	G?
T: shallow salt or brackish water					
<i>Hypsoblennius ionthas</i>	Freckled Blenny	V		S2	GU
T: shallow bays, estuaries, tidal creeks					
<i>Oostethus brachyurus</i>	Opossum Pipefish	V		S1	G5
T: warm fresh to brackish water					

Scientific Name	Common Name	N.C.	U.S.	N.C.	Global
Province: Habitat		Status	Status	Rank	Rank

## MOLLUSKS -- FRESHWATER BIVALVES

<i>Alasmidonta heterodon</i> PC: Tar and Neuse drainages, mainly near Fall Line	Dwarf Wedge Mussel	E	LE	S1	G1
<i>Alasmidonta raveneliana</i> M: Tennessee drainages; perhaps only in Little Tennessee River at present (only known current site)	Appalachian Elktoe	E	C2	S1	G1
<i>Alasmidonta robusta</i> P: Long Creek in Mecklenburg County (endemic to North Carolina; now believed extinct)	Carolina Elktoe	EX	3A	SX	GH
<i>Alasmidonta undulata</i> PC: most river systems in Piedmont and upper Coastal Plain	Triangle Floater	T		S2	G5 (G4)
<i>Alasmidonta varicosa</i> PM: many Piedmont systems and along Blue Ridge escarpment of Catawba River system	Brook Floater	T		S2	G3
<i>Alasmidonta viridis</i> M: Little Tennessee River	Slippershell Mussel	E		S1	G4
<i>Anodonta couperiana</i> C: Bladen County; formerly in Greenfield Lake	Barrel Floater	E		S1	G3
<i>Anodonta implicata</i> C: Chowan River	Alewife Floater	SC		S2	G5 (G4)
<i>Elliptio dilatata</i> M: Little Tennessee River	Spike	SC		S2	G5 (G3)
<i>Elliptio folliculata</i> C: lower Coastal Plain, mainly in Lake Waccamaw	Pod Lance	SC		S2	G3
<i>Elliptio judithae</i> [probably conspecific with <i>E. roanokensis</i> ] CP: Neuse River; possibly Tar River (endemic to North Carolina)	Neuse Slabshell	E		S1	G1Q
<i>Elliptio lanceolata</i> PC: Tar, Neuse, and Roanoke systems, mainly near the Fall Line	Yellow Lance	T		S2	G4 (G3)
<i>Elliptio marsupiobesa</i> [probably conspecific with <i>E. icterina</i> ] C: Cape Fear River in Cumberland and Bladen counties (endemic to North Carolina)	Cape Fear Spike	T	C2	S1	G1Q
<i>Elliptio roanokensis</i> PC: Neuse, Tar, and Roanoke rivers near the Fall Line	Roanoke Slabshell	T		S1	G2Q
<i>Elliptio steinstansana</i> PC: Tar River drainage, primarily Swift Creek (endemic to North Carolina)	Tar River Spiny Mussel	E	LE	S1	G1

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Global Ranks in parentheses are those suggested by the N.C. Scientific Committee and are not The Nature Conservancy's assigned ranks

<i>Elliptio waccamawensis</i> C: Lake Waccamaw and vicinity (endemic to North Carolina; possibly in adjacent South Carolina)	Waccamaw Spike	T	C2	S1	G1
<i>Fusconaia barnesiana</i> M: Little Tennessee River	Tennessee Pigtoe	E		S1	G3
<i>Fusconaia masoni</i> CP: most Atlantic drainages, in lower Piedmont and upper Coastal Plain (near Fall Line)	Atlantic Pigtoe	T		S1	G3 (G2)
<i>Lampsilis cariosa</i> PC: a number of river systems; mainly near the Fall Line	Yellow Lampmussel	T		S1	G4
<i>Lampsilis crocata</i> C: Lake Waccamaw and vicinity; possibly Orton Pond	Waccamaw Lampmussel	SC		S2	G10 (GU)
<i>Lampsilis fasciola</i> M: French Broad, Pigeon, and Little Tennessee rivers; currently known only in last river	Wavy-rayed Lampmussel	SC		S2	G4
<i>Lampsilis fullerkati</i> C: Lake Waccamaw and vicinity (endemic to North Carolina and adjacent South Carolina)	Waccamaw Fatmucket	T		S1	G1
<i>Lampsilis ochracea</i> CP: a number of systems, primarily in the Coastal Plain; abundant in Lake Waccamaw	Tidewater Mucket	SC		S2	G4
<i>Lampsilis radiata</i> CP: a number of river systems	Eastern Lampmussel	SC		S2	G5 (G4)
<i>Lasmigona decorata</i> P: Catawba and Pee Dee drainages in Union and Mecklenburg counties (endemic to this area and adjacent South Carolina)	Carolina Heelsplitter	E	C2	S1	G1
<i>Lasmigona holstonia</i> M: Watauga River; former in Valley Creek in Cherokee County	Tennessee Heelsplitter	E	C2	S1	G2
<i>Lasmigona subviridis</i> CPM: Tar, Neuse, and Cape Fear systems downstate; New and Watauga systems in mountains	Green Floater	E		S1	G4 (G3)
<i>Leptodea ochracea</i> (see <i>Lampsilis</i> )					
<i>Ligumia nasuta</i> C: Chowan, Roanoke, and Pamlico systems	Eastern Pondmussel	SC		S2	G4 (G3)
<i>Pegias fabula</i> M: Little Tennessee River; formerly in Valley River in Cherokee County	Little-wing Pearlymussel	E	LE	S1	G1
<i>Strophitus undulatus</i> P: Tar, Neuse, Cape Fear, and Pee Dee systems, perhaps other systems in Piedmont	Squawfoot	T		S2	G5 (G4)
<i>Toxolasma pullus</i> PC: a number of Atlantic drainages, most numerous in University Lake near Chapel Hill	Savannah Lilliput	T	C2	S2	G3
<i>Tritogonia verrucosa</i> M: New River near the Virginia border	Pistolgrip	E		S1	G4
<i>Villosa constricta</i> PC: most Atlantic drainages, mainly in lower Piedmont	Notched Rainbow	SR		S3	G4

<i>Villosa nebulosa</i>	Alabama Rainbow	SC	S2	G3
M: French Broad, Hiwassee, and Little Tennessee rivers; currently only known in the state from the last river				
<i>Villosa vanuxemensis</i>	Mountain Creekshell	T	S1	G4
M: French Broad and Hiwassee systems				
<i>Villosa vaughaniana</i>	Carolina Creekshell	SC	S2	G3
P: Pee Dee system (endemic to North Carolina and adjacent South Carolina)				

#### MOLLUSKS -- FRESHWATER GASTROPODS

<i>Amnicola</i> sp.	Waccamaw Amnicola	SC	S1	G1Q
C: Lake Waccamaw and adjacent Big Creek (endemic to North Carolina)				
<i>Cincinnatia</i> sp.	Waccamaw Siltsnail	SC	S1	G1Q
C: Lake Waccamaw and adjacent Big Creek (endemic to North Carolina)				
<i>Ferrissia hendersoni</i>	Blackwater Ancyloid	SC	S1	G1
CP: scattered locales in Coastal Plain and Piedmont, but mainly on margins of Carolina bay lakes (apparently endemic to North Carolina)				
<i>Goniobasis interrupta</i>	Knotty Elimia	E	S1	G1
M: Hiwassee River and tributaries				
<i>Helisoma eucosmium</i>	Greenfield Ramshorn	EX	C2	SX GH
C: Greenfield Lake (endemic to North Carolina; believed to be extinct or extirpated)				
<i>Leptoxis dilatata</i>	Seep Mudalia	T	S1	G4 (G3)
M: New River in Ashe County				
<i>Planorbella magnifica</i>	Magnificent Rams-horn	E	C2	S1 G1
C: Orton Pond; formerly Greenfield Lake (endemic to North Carolina)				

#### MOLLUSKS -- TERRESTRIAL GASTROPODS

<i>Catinella waccamawensis</i>	Waccamaw Ambersnail	T	S1	G5
C: shoreline of Lake Waccamaw (endemic to North Carolina)				
<i>Discus bryanti</i>	Saw-tooth Disc	SC	S2	G3
M: Watauga to Madison counties				
<i>Glyphyalinia clingmani</i>	Fragile Glyph	E	S1	G1
M: Black Mountains of Yancey County (endemic to North Carolina)				
<i>Glyphyalinia junaluska</i>	Dark Glyph	SC	S2	G3
M: southwestern mountains				
<i>Glyphyalinia pentadelphia</i>	Pink Glyph	SC	S2	G3
M: southwestern mountains				
<i>Glyphyalinia vanattai</i>	Honey Glyph	SC	S2	G2
M: Avery, Mitchell, and Yancey counties				

Haplotrema kendeighi	Blue-foot Lancetooth	SC		S2	G2
M: southwestern mountains					
Helicodiscus bonamicus	Spiral Coil	SC		S2	G2
M: Nantahala Gorge vicinity (endemic to this area)					
Helicodiscus fimbriatus	Fringed Coil	SC		S2	G3
M: extreme southwestern corner of the state, in Cherokee and Graham counties					
Mesodon chilhoweensis	Queen Crater	SC		S2	G2
M: southern half of the mountains					
Mesodon clarki	Dwarf Proud Globe	SC		S2	G2
M: southwestern mountains					
Mesodon clarki nantahala	Noonday Globe	T	LT	S1	G2T1
M: Nantahala Gorge (endemic to this site)					
Mesodon clingmanicus	Clingman Covert	T		S1	G4 (G1)
M: Clingmans Dome region of Great Smoky Mountains National Park (endemic to this area)					
Mesodon ferrissi	Smoky Mountain Covert	T		S2	G2
M: Great Smoky Mountains and Plott Balsams (endemic to these ranges)					
Mesodon jonesianus	Big-tooth Covert	T	3C	S2	G2
M: Newfound Gap area of Great Smoky Mountains National Park (endemic to this area)					
Mesodon orestes	Engraved Covert	T		S2	G2
M: Plott Balsam mountains (endemic to this area)					
Mesodon subpalliatius	Velvet Covert	SC		S2	G2
M: central mountains (Avery to Haywood counties)					
Pallifera hemphilli	Black Mantleslug	SC		S2	G2
M: high elevation forests, mainly spruce-fir					
Paravitrea andrewsae	High Mountain Supercoil	SC		S2	G3
M: northern half of the mountains					
Paravitrea clappi	Mirey Ridge Supercoil	SC	3C	S2	G3
M: high elevations in Great Smoky Mountains National Park					
Paravitrea lacteodens	Ramp Cove Supercoil	SC		S1	G1Q
M: Graham County, possibly Cherokee County (endemic to this area)					
Paravitrea lamellidens	Lamellate Supercoil	SC		S2	G3
M: southern half of the mountains					
Paravitrea placentula	Glossy Supercoil	SC		S2	G3
M: Mitchell and Swain counties					
Paravitrea ternaria	Sculpted Supercoil	T		S2	G2
M: Madison County (endemic to this county and Unicoi County, Tennessee)					
Paravitrea umbilicaris	Open Supercoil	SC		S2	G3
M: extreme southwestern mountains					
Paravitrea varidens	Roan Supercoil	T		S2	G2
M: Mitchell and Yancey counties (endemic to North Carolina and adjacent Tennessee)					
Stenotrema depilatum	Great Smoky Slitmouth	SC		S2	G2
M: Great Smoky Mountains National Park (essentially endemic to this area)					
Triodopsis fulciden	Dwarf Threetooth	SC		S2	G2
P: southwestern Piedmont (endemic to North Carolina)					

Triodopsis soelneri	Cape Fear Threetooth	T	S2	G2
C: swampy habitats in the extreme southeastern corner of the state (endemic to North Carolina)				
Ventridens coelaxis	Bidentate Dome	SC	S2	G3
M: northern mountains				
Zonitoides patuloides	Appalachian Gloss	SC	S2	G2
M: southwestern mountains				

#### MOLLUSKS -- MARINE BIVALVES

Argopecten gibbus	Atlantic Calico Scallop	SR	S?	G?
Panopea bitruncata	Atlantic Geoduck	SR	S?	G3?
Paramya subovata	Subovate Soft Clam	SR	S?	G?

#### MOLLUSKS -- MARINE GASTROPODS

Busycon canaliculatus	Channeled Whelk	SR	S?	G?
Busycon carica	Knobbed Whelk	SR	S?	G?
Busycon contrarium	Lightning Whelk	SR	S?	G?
Detracia clarki	Clark's Melampus	SR	S?	G?
Neritina usnea	Olive Nerite	SR	S?	G?

#### ARACHNIDS

Ivesia carolinensis	Linville Caverns Spider	SR	S?	G?	
Microhexura montivaga	North Carolina Funnelweb Tarantula	SR	S?	G?	
Nesticus cooperi	Lost Nantahala Cave Spider	SR	C2	S?	G?
Vaejovis carolinianus	Carolina Scorpion	SR	S?	G?	

#### CRUSTACEANS

Caecidotea carolinensis	North Carolina Cave Isopod	SR		S?	G?
Cambarus catagius	Greensboro Burrowing Crayfish	SR	C2	S1	G1
Cambarus chasmodactylus	New River Riffle Crayfish	SR	C2	S?	G4G5

<i>Cambarus reburus</i>	French Broad Stream Crayfish	SR		S?	G2G3
<i>Miktoniscus alabamensis</i>	Small Alabama Sowbug	SR		S?	G?
<i>Orconectes virginienensis</i>	Chowan River Crayfish	SR		S?	G2
<i>Procambarus ancylus</i>	a crayfish	SR		S?	G?
<i>Procambarus lepidodactylus</i>	Pee Dee Lotic Crayfish	SR	C2	S?	G2G3
<i>Procambarus medialis</i>	a crayfish	SR		S?	G2
<i>Procambarus pearsei</i>	a crayfish	SR		S?	G?
<i>Procambarus plumimanus</i>	a crayfish	SR		S?	G2
<i>Stygobromus carolinensis</i>	Carolina Seep Scud	SR		S?	G?
<i>Stygobromus</i> sp. B	an amphipod	SR		S?	G?

#### MILLIPEDES

<i>Boraria deturkiana</i>	a millipede	SR		S?	G?
<i>Brachoria eutypa</i>	a millipede	SR		S?	G?
<i>Cleidogono tallapoosa</i>	a millipede	SR		S?	G?
<i>Croatania catawba</i>	a millipede	SR		S?	G?
<i>Deltotaria lea</i>	a millipede	SR		S?	G?
<i>Dixioria dactylifera</i>	a millipede	SR		S?	G?
<i>Dynoria icana</i>	a millipede	SR		S?	G?
<i>Erdelyia saucra</i>	a millipede	SR		S?	G?
<i>Pachydesmus crassicutus incursus</i>	a millipede	SR		S?	G?
<i>Scoterpes</i> sp.	a millipede	SR		S?	G?

#### INSECTS -- MAYFLIES

<i>Dolania americana</i>	American Sandburrowing Mayfly	SR	C2	S1?	G?
<i>Ephemerella argo</i>	Argo Ephemerellan Mayfly	SR	C2	S1	G1G3
<i>Ceratella spiculosa</i>	Spiculose Ceratellan Mayfly	SR	C2*	SH	GH

# INSECTS -- DRAGONFLIES

Gomphus (Gomphurus) consanguis	Cherokee Clubtail Dragonfly	SR	C2	S1	G1
Gomphus (Gomphurus) septima	Septima's Clubtail Dragonfly	SR	C2	S1	G1G2
Gomphus (Hylogomphus) parvidens carolinus	Sandhills Clubtail Dragonfly	SR	C2	S1?	G2G3T?
Gomphus (Stylurus) townesi	Bronze Clubtail Dragonfly	SR	C2	S1?	G1G3
Macromia margarita	Margarita River Skimmer Dragonfly	SR		S1	G1G2
Ophiogomphus edmundo	Edmund's Snaketail Dragonfly	SR	C2*	SH	GH
Ophiogomphus howei	Midget Snaketail Dragonfly	SR	C2	S1?	G2G3
Progomphus bellei	Variegated Clubtail Dragonfly	SR	C2	S1	G1G3
Tachopteryx thoreyi	Thorey's Grayback Dragonfly	SR		S2	G4

# INSECTS -- FLIES

Eulonchus marialiciae	Mary Alice's Smallheaded Fly	SR	C2	S1S3	G1G3
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# INSECTS -- SCORPIONFLIES

Brachypanorpa carolinensis	Short-nosed Scorpionfly	SR		S?	G?
Merope tuber	Earwig Scorpionfly	SR		S?	G3G5

# INSECTS -- MOTHS

Acronicta albarufa	Albarufan Dagger Moth	SR	C2	SH	G3G4
Catocala marmorata	Marbled Underwing Moth	SR	3C	S?	G4
Lithophane lemmeri	Lemmer's Noctuid Moth	SR	C2	S1S3	G3G4
Schinia indiana	Phlox Moth	SR	C2	S?	GU

## INSECTS -- BUTTERFLIES

Amblyscirtes alternata	Least Florida Skipper	SR	S2	G3G4
C: open pine woods, savannas; host plants -- unknown, but presumably grasses				
Amblyscirtes hegon	Pepper and Salt Skipper	UNK	S2?	G5
MP: forest clearings and borders; host plants -- grasses				
Amblyscirtes reversa	Reversed Roadside Skipper	SR	S2	G4
CP: swamps or wet woods near cane; host plant -- cane ( <u>Arundinaria</u> )				
Amblyscirtes vialis	Roadside Skipper	UNK	S3?	G5
MPC: woods, wood margins; host plants -- grasses				
Asterocampa clyton	Tawny Emperor	UNK	S2?	G5
PC: woods, especially near streams; host plants -- hackberries ( <u>Celtis</u> )				
Atrytone arogos	Arogos Skipper	SR	S1	G4
C: grassy areas, mainly in sandhills; host plants -- grasses, mainly broomsedge ( <u>Andropogon</u> )				
Atrytonopsis hianna	Dusted Skipper	UNK	S3?	G4
PC: grassy areas, often in open woods; host plants -- big bluestem and little bluestem ( <u>Andropogon</u> )				
Atrytonopsis loammi	Southern Dusted Skipper	SR	S1	GUQ
CT: grassy areas; host plants -- presumed to be <u>Andropogon</u> grasses				
Autochton cellus	Gold-banded Skipper	UNK	S2?	G4
MPC: moist woods near streams or ponds; host plants -- legumes, mainly hog peanut ( <u>Amphicarpa</u> )				
Boloria (Clossiana) bellona	Meadow Fritillary	SR	S2	G5
M: moist meadows, pastures, bogs; host plants -- violets ( <u>Viola</u> )				
Calephelis virginienensis	Little Metalmark	UNK	S2?	G4
C: savannas, flatwoods, other grassy areas; host plant -- thistle ( <u>Cirsium horridulum</u> )				
Celastrina ebenina	Dusky Blue	SR	S1	G4
M: rich, moist deciduous forests; host plant -- goat's-beard ( <u>Aruncus dioicus</u> )				
Celastrina neglectamajor	Appalachian Blue	SR	S1	G4
M: rich deciduous forests; host plant -- maple-leaf viburnum ( <u>Viburnum acerifolium</u> )				
Clossiana (see Boloria)				
Enodia anthedon	Northern Pearly Eye	UNK	S1?	G5
M: moist deciduous woods, especially near streams; host plants -- grasses				
Erora laeta	Early Hairstreak	SR	S1	G4
M: deciduous forests, especially on or near ridgetops; host plants -- mainly beech ( <u>Fagus</u> ) and hazelnut ( <u>Corylus</u> )				

<i>Erynnis baptisiae</i> PC: dry open woods, dry fields and edges; host plants -- legumes, mainly wild indigo ( <u>Baptisia tinctoria</u> )	Wild Indigo Dusky Wing	UNK	S2?	G5
<i>Erynnis martialis</i> MPC: upland woods, brushy fields; host plant -- New Jersey tea ( <u>Ceanothus americanus</u> )	Mottled Dusky Wing	UNK	S3?	G4
<i>Euphydryas phaeton</i> M: bogs, marshes, wet meadows; host plants -- varied, but mainly turtlehead ( <u>Chelone</u> )	Baltimore	SR	S1	G4
<i>Euphyes berryi</i> C: wet areas near ponds, canals, or marshes; host plant -- not known; adults feed on pickerelweed ( <u>Pontederia</u> )	Berry's Skipper	SR	S1	G3G4
<i>Euphyes bimaculata</i> C: marshes, sedgy areas near wet woods; host plants -- sedges ( <u>Carex</u> )	Two-spotted Skipper	SR	S1	G4
<i>Euphyes dion</i> C: marshes, ditches, boggy areas; host plants -- sedges ( <u>Carex</u> , <u>Scirpus</u> )	Dion Skipper	UNK	S2?	G4
<i>Euphyes dukesii</i> C: swamps, marshes; host plants -- sedges ( <u>Carex</u> )	Duke's Skipper	SR	S1	G3G4
<i>Fixsenia favonius</i> T: maritime forests; host plant -- oaks, especially live oak ( <u>Quercus virginiana</u> )	Southern Hairstreak	SR	S1	G4Q
<i>Fixsenia ontario</i> CT: oak-dominated woods, usually in dry sites; host plants -- oaks ( <u>Quercus</u> )	Northern Hairstreak	UNK	S3?	G4
<i>Glaucopsyche lygdamus</i> M: open, upland woods and borders; host plants -- legumes, especially Carolina vetch ( <u>Vicia caroliniana</u> )	Silvery Blue	SR	S1	G5
<i>Hesperia attalus</i> C: pine/oak sandhills, flatwoods, savannas; host plants -- grasses	Dotted Skipper	SR	S2	G4
<i>Hesperia leonardus</i> MP: grassy areas, openings in woods; host plants -- grasses	Leonard's Skipper	UNK	S2?	G4
<i>Hesperia meskei</i> C: grassy areas, especially open pine woods; host plants -- grasses	Meske's Skipper	SR	S1	G3?
<i>Hesperia metea</i> PC: dry barren sites, such as pine/oak sandhills and upland woods; host plants -- mainly broomsedge ( <u>Andropogon</u> )	Cobweb Skipper	UNK	S2?	G4G5
<i>Hesperia sassacus</i> M: old fields, clearings, wood margins; host plants -- grasses	Indian Skipper	SR	S1	G5
<i>Incisalia augustus</i> MPC: dry acidic areas with an abundance of ericads, such as pine/oak heaths; host plants -- ericaceous shrubs	Brown Elfin	UNK	S3?	G5

Lethe (see Enodia)

Megathymus yuccae	Giant Yucca Skipper	UNK		S2?	G4
C: dunes, flatwoods, old fields, and other places near yuccas; host plants -- <u>Yucca</u> species					
Mitoura hesseli	Hessel's Hairstreak	SR	3C	S2	G3G4
C: Atlantic white cedar swamps; host plant -- white cedar ( <u>Chamaecyparis thyoides</u> )					
Neonympha mitchellii francisci	Mitchell's Satyr	SR	C2	S1	G2T1
C: boggy areas or pocosin margins with sedges in sandhills; host plants -- sedges					
Oligoria maculata	Twin Spot Skipper	UNK		S2?	G5
CT: open swamps, pine flatwoods; host plants -- probably grasses					
Papilio cresphontes	Giant Swallowtail	SR		S2	G5
TCPM: primarily coastal in maritime forests or thickets; host plants -- prickly ash ( <u>Zanthoxylum</u> ), hoptree ( <u>Ptelea</u> )					
Phyciodes batesii	Tawny Crescent	SR	C2	S1	G3G4
M: dry hillsides, upland pastures; host plants -- asters, mainly <u>Aster undulatus</u>					
Phyciodes pascoensis	Northern Pearl Crescent	SR		S1	G5
M: rocky areas (in Appalachians), but habitat poorly known; host plants -- asters					
Phyciodes phaon	Phaon Crescent	UNK		S2?	G5
CT: open areas, often moist, such as marshes and shores; host plants -- fogfruit ( <u>Lippia</u> )					
Pieris virginienensis	West Virginia White	UNK		S2?	G4
M: deciduous woods, often near streams; host plants -- toothworts ( <u>Cardamine</u> )					
Poanes aaroni	Aaron's Skipper	SR		S1	G4
T: salt or brackish marshes; host plants -- grasses, perhaps mainly <u>Spartina alterniflora</u>					
Poanes viator	Broad-winged Skipper	UNK		S3?	G5
CT: marshes, ranging from fresh to salt; host plants -- grasses and sedges, especially taller species					
Polites mystic	Long Dash	SR		SR	G5
P: wet meadows, marshes; host plants -- grasses					
Polytonia faunus	Green Comma	UNK		S3?	G5
M: spruce-fir forests, or mixed hardwood-spruce forests; host plants -- varied, but mainly birches, willows, and alders					
Polytonia progne	Gray Comma	SR		S1	G5
M: rich deciduous forests; host plants -- mainly gooseberries ( <u>Ribes</u> ), but also on wild azalea ( <u>Rhododendron nudiflorum</u> )					
Problema bulenta	Rare Skipper	SR	C2	S1	G2G3
T: fresh to brackish marshes, generally near southern wild rice ( <u>Zizaniopsis miliacea</u> ); host plant -- southern wild rice					
Problema byssus	Byssus Skipper	UNK		S1	G3G4
C: marshes and grassy areas; host plants -- grasses					

Pyrgus centaureae wyandot	Grizzled Skipper	SR	S1	G3
M: openings and edges in wooded hilltops; host plants -- Rosaceae, such as wild strawberry ( <u>Fragaria</u> )				
Satyrium caryaevorum	Hickory Hairstreak	SR	S1	G4
M: deciduous forests; host plants -- primarily hickories ( <u>Carya</u> ), but other trees also				
Satyrium edwardsii	Edwards' Hairstreak	UNK	S2?	G4
MPC: scrubby or xeric oak woods; host plants -- mainly oaks ( <u>Quercus</u> )				
Satyrium kingi	King's Hairstreak	SR	S2S3	G3G4
MC: forests, often moist, usually near sweetleaf; host plant -- sweetleaf ( <u>Symplocos</u> )				
Speyeria diana	Diana	SR	S3	G3
MP: rich woods and adjacent edges and openings, often near streams; believed extirpated from the Piedmont; host plants -- violets ( <u>Viola</u> )				
Speyeria idalia	Regal Fritillary	SR	C2	SH G3
M: wet meadows, bogs; host plants -- violets ( <u>Viola</u> )				

#### INSECTS -- BEETLES

Adelopsis mitchellensis	a small carrion beetle	SR	S?	G?
Agathidium sp 1	a round fungus beetle	SR	S?	G?
Aglenus brunneus	a cylindrical bark beetle	UNK	S?	G?
Agonum gracilentum	a ground beetle	UNK	S?	G?
Anillinus carolinae	a ground beetle	SR	S?	G?
Anillinus sp 2 [from NC, sp B]	a ground beetle	SR	S?	G?
Anillinus sp 4 [from NC, sp D]	a carabid beetle	SR	S?	G?
Anillinus sp A	a ground beetle	SR	S?	G?
Arianops alticola	a short-winged mold beetle	SR	S?	G?
Arianops barbata	a short-winged mold beetle	SR	S?	G?
Arianops coweeti	a short-winged mold beetle	SR	S?	G?
Arianops fovealis	a short-winged mold beetle	SR	S?	G?
Arianops gigantea	a short-winged mold beetle	SR	S?	G?
Arianops laminata	a short-winged mold beetle	SR	S?	G?
Arianops nantahalae joanna	a short-winged mold beetle	SR	S?	G?

<i>Arianops nantahalae nantahalae</i>	a short-winged mold beetle	SR	S?	G?
<i>Arianops nodosa</i>	a short-winged mold beetle	SR	S?	G?
<i>Arianops norithe</i>	a short-winged mold beetle	SR	S?	G?
<i>Arianops parki</i>	a short-winged mold beetle	SR	S?	G?
<i>Arianops plectrops</i>	a short-winged mold beetle	SR	S?	G?
<i>Arianops spinicollis</i>	a short-winged mold beetle	SR	S?	G?
<i>Arianops teyahalee</i>	a short-winged mold beetle	SR	S?	G?
<i>Arianops thornei</i>	a short-winged mold beetle	SR	S?	G?
<i>Arianops unicoi</i>	a short-winged mold beetle	SR	S?	G?
<i>Cicindela ancocisconensis</i>	Tiger Beetle	SR	S?	G?
<i>Ctenisius sp A</i>	a short-winged mold beetle	UNK	S?	G?
<i>Hetaerius sp A</i>	Hister Beetle	UNK	S?	G?
<i>Lathrobium shermani</i>	a rove beetle	SR	S?	G?
<i>Lichnanthe vulpina</i>	a scarab beetle	UNK	S?	G?
<i>Limulodes paradoxus</i>	Horse-shoe Crab Beetle	UNK	S?	G?
<i>Lordithon niger</i>	Black Lordithon Rove Beetle	SR C2	S?	G?
<i>Maronetus sp A</i>	a carabid beetle	SR	S?	G?
<i>Maronetus tenuis</i>	a ground beetle	SR	S?	G?
<i>Maronetus unistriatus</i>	a ground beetle	UNK	S?	G?
<i>Mayetia bulla</i>	a short-winged mold beetle	SR	S?	G?
<i>Mayetia pearsei</i>	a short-winged mold beetle	SR	S?	G?
<i>Mayetia sp 2</i> [from NC, sp]	a short-winged mold beetle	SR	S?	G?
<i>Mayetia sp 3</i> [from NC, sp]	a short-winged mold beetle	SR	S?	G?
<i>Mayetia sp A</i>	a short-winged mold beetle	SR	S?	G?
<i>Nebria appalachia</i>	a ground beetle	UNK	S?	G?
<i>Microphorus americanus</i>	American Burying Beetle	E LE	SH	G1
<i>Pilopius sp A</i>	a short-winged mold beetle	UNK	S?	G?

<i>Psilocnemis leucosticta</i>	a scarab beetle	UNK	S?	G?
<i>Pterostichus blanchardi</i>	a ground beetle	UNK	S?	G?
<i>Pterostichus carolinus carolinus</i>	a ground beetle	UNK	S?	G?
<i>Pterostichus carolinus fumorum</i>	a ground beetle	UNK	S?	G?
<i>Pterostichus hypogea</i>	a ground beetle	SR	S?	G?
<i>Pterostichus lubricus</i>	a ground beetle	UNK	S?	G?
<i>Pterostichus mancus plethorus</i>	a ground beetle	UNK	S?	G?
<i>Pterostichus palmi</i>	a ground beetle	UNK	S?	G?
<i>Pterostichus primus</i>	a ground beetle	UNK	S?	G?
<i>Pterostichus unicarum</i>	a ground beetle	UNK	S?	G?
<i>Scaphinotus guyoti</i>	a ground beetle	UNK	S?	G?
<i>Scaphinotus violaceus</i>	a ground beetle	UNK	S?	G?
<i>Stenelmis gammoni</i>	Gammon's Stenelmis Riffle Beetle	SR C2	S?	G1G3
<i>Trechus balsamensis</i>	a ground beetle	SR	S1?	G1?
<i>Trechus carolinae</i>	a ground beetle	SR	S1?	G1?
<i>Trechus luculentus luculentus</i>	a ground beetle	SR	S2?	G2T2?
<i>Trechus luculentus unicoi</i>	a ground beetle	SR	S2?	G2T2?
<i>Trechus mitchellensis</i>	a ground beetle	SR	S1?	G1?
<i>Trechus novaculosus</i>	a ground beetle	SR	S2?	G2?
<i>Trechus roanicus</i>	a ground beetle	SR	S1?	G1?
<i>Trechus rosenbergi</i>	a ground beetle	SR	S1?	G1?
<i>Trechus satanicus</i>	a ground beetle	SR	S1?	G1?
<i>Trechus subtilis</i>	a ground beetle	SR	S1?	G1?

# INSECTS -- ANTS

Amblyopone trigonignatha	an ant	UNK	S?	G?
Formica exsectoides	Alleghany Mound Ant	SR	S?	G?

# ANNELIDS

Chaetopterus variopedatus	Parchment Tube Worm	SR	S?	G?
Notomastus lobatus	a polychaete worm	SR	S?	G?
Thalassema hartmani	Hartman's Echiurid Worm	SR	S?	G?

## POTENTIAL NEW-TO-NORTH CAROLINA ANIMALS

The following list contains species not currently known to occur in North Carolina, or those species not currently known to breed in North Carolina, but which are considered to have some possibility of being found to occur on a regular basis or to breed in the state. The list is based on the species' currently known range and habitat preferences. Nearly all are species that occur in the adjacent states of South Carolina, Georgia, Tennessee, or Virginia, in habitats (or drainages) at least relatively similar to habitats known to exist in North Carolina. The purpose of this list is to encourage and challenge field workers to find new state occurrences and new breeding records. This list should give field investigators an idea of some of the species that may be regular components of North Carolina's fauna. (Species that might occur as single record accidentals, such as Western species of birds or Gulf Coast butterflies, are generally not included.) While some of these species may have relatively remote chances of being found in North Carolina, the likelihood of finding new state records is greatly increased by being aware of the possibilities and by species-directed searching. Our knowledge of many of our animal groups is still quite imperfect, especially invertebrate groups such as butterflies. Many natural areas are being destroyed before they can be investigated, and it can be assumed that a number of native species have been extirpated from North Carolina before they were ever documented as occurring in the state.

Following each species is the North Carolina province in which the species is considered most likely to be found occurring or found breeding. Where possible, a description of the typical habitat of the species in the vicinity of North Carolina is also given. Sometimes, the nearest known occurrence(s) to North Carolina are also listed, with the distance from North Carolina in number of counties in brackets. For instance, [1] indicates that the species has been reported from a county immediately adjacent to North Carolina; [5] indicates that the species has been reported from a county 5 counties away from the North Carolina border. An average county width in and around North Carolina is about 25 miles, so [5] indicates an approximate distance from North Carolina of 100-125 miles. It should be obvious that a species known to occur south only to the Virginia mountains would be best searched for in North Carolina counties near the Virginia line, such as Ashe, Alleghany, and Watauga. Likewise, Coastal Plain species occurring north to South Carolina are most likely searched for in counties along the southern border, such as Brunswick and Columbus.

The following additional symbols are used:

\* - May have occurred in North Carolina (no conclusive records) with the remote possibility of being conclusively found in the state

+ - Known to occur in the state on a regular basis (as an Element Occurrence) but not known conclusively to breed, though suspected or assumed to breed; conclusive breeding records lacking

### MAMMALS

There are very few terrestrial mammals that could be discovered for the first time in North Carolina; three of them may have occurred in the mountains many decades or centuries ago, but reports are fuzzy or second-hand. Most of the potential new-to-North Carolina mammals are cetaceans. A few cetaceans probably occur regularly in the Atlantic off North Carolina, but far offshore; however, most of them are primarily either subtropical or Arctic inhabitants and would be considered accidental in the state.

*Balaenoptera edeni* -- Bryde's Whale

T: ocean, primarily in subtropical waters; VA (one record), GA

*Balaenoptera musculus* -- Blue Whale

T: ocean, entire north Atlantic, far offshore; MD (one record)

*Erethizon dorsatum* -- Porcupine \*

M: forests; PA, and possibly now in MD; formerly in VA

*Lagenorhynchus acutus* -- Atlantic White-sided Dolphin

T: ocean, in cold waters north of NC; VA (three recent records)

*Lasiurus intermedius* -- Northern Yellow Bat

C: wooded areas near water; SC [2], VA [1]; the single record from VA indicates the species might be accidental there

*Lepus americanus* -- Snowshoe Hare \*

M: high elevation forests and thickets, mainly in northern mts.; VA, MD -- perhaps extirpated in both states now

*Martes pennanti* -- Fisher \*

M: high elevation, mixed forests; occurred formerly in VA, WV, but native populations apparently extirpated; recently re-introduced in WV and recently seen also in VA and MD, with the sightings likely from the re-introduced population

*Peponocephala electra* -- Melon-headed Whale

T: ocean, in subtropical waters; MD (one record)

*Phoca groenlandica* -- Harp Seal

T: ocean, in cold waters north of NC; VA (one record)

*Stenella clymene* -- Short-snouted Spinner Dolphin

T: ocean, in subtropical waters; FL, NJ

## BIRDS

The species below are all considered to be potential breeders in North Carolina; some may possibly be breeding already. All have been recorded from the state on numerous occasions; those marked by (+) are known to occur in summer in the state to an extent and probably are nesting, but conclusive evidence is lacking.

*Accipiter gentilis* -- Northern Goshawk

M: extensive forests, mainly at high elevations; MD, WV, VA ?; a few summer records for the NC mountains

*Ammodramus caudatus* -- Sharp-tailed Sparrow

T: salt or brackish marshes; VA [3]; some references list NC in the breeding range -- this is erroneous; there have been a few summer reports, but some may be erroneous or of late migrating individuals

*Asio flammeus* -- Short-eared Owl

T: extensive brackish marshes; MD ?, VA formerly, and might still nest there; several summer records for the NC coastal marshes

*Asio otus* -- Long-eared Owl

M: conifers or mixed woods at high elevations in northern mountains; VA [2]; one or two summer reports from the NC mountains, but without visual confirmation

*Carpodacus purpureus* -- Purple Finch

M: spruce-fir forests; VA [1] (Mt. Rogers); one or two summer records for the NC mountains

*Catharus guttatus* -- Hermit Thrush +

[breeding evidence needed]; no active nest yet found, but probably nests [see main list]

*Catharus ustulatus* -- Swainson's Thrush

M: spruce-fir forests, mainly in northern mountains; VA [1] (Mt. Rogers); possibly nested in NC mountains in 19th Century, but no summer records in many decades

*Cistothorus platensis* -- Sedge Wren

T: brackish marshes; VA [3] (northern portion of Chesapeake Bay); several summer records from NC, mainly in brackish marshes, but these might be of wandering birds or migrants

*Contopus borealis* -- Olive-sided Flycatcher +

[breeding records for TN side of Great Smoky Mountains NP]; no active nest has been found in NC [see main list]

*Dendroica magnolia* -- Magnolia Warbler +

[breeding evidence needed]; no active nest yet found, but probably nests [see main list]

*Elanoides forficatus* -- American Swallow-tailed Kite

C: swamps, river bottoms; SC [2] (Santee River); numerous summer records, but all believed to be of visitors/postbreeders

*Empidonax flaviventris* -- Yellow-bellied Flycatcher

M: high elevation spruce-fir, usually where stunted or young; VA [1] (Mt. Rogers); two summer reports from NC mountains

*Ictinia mississippiensis* -- Mississippi Kite +

[breeding evidence needed]; no active nest yet found, but believed to nest along Roanoke River [see main list]

*Melospiza georgiana* -- Swamp Sparrow

M: bogs at high elevation; VA [5-6]; no summer reports for NC

*Mycteria americana* -- Wood Stork

C: swamps, with open water somewhat nearby; SC [4]; no reports from NC suggestive of breeding in the state [see main list]

*Oporornis philadelphia* -- Mourning Warbler

M: thickets, brushy places, clearings; VA [5]; a pair believed to have nested in mid-1980's near Great Smoky Mountains N.P. in NC is only summer record for the state

*Passerculus sandwichensis* -- Savannah Sparrow +

[breeding evidence needed]; VA [1]; believed to be nesting in Alleghany County, but only one other summer report for NC [see main list]

*Seiurus noveboracensis* -- Northern Waterthrush

M: bogs where spruce-fir is present; VA [5-6], plus two reports from Mt. Rogers; no summer reports for NC

*Vermivora pinus* -- Blue-winged Warbler +

[breeding evidence needed]; no active nest yet found, but presumed to breed in southwestern counties [see main list]

*Vermivora ruficapilla* -- Nashville Warbler

M: spruce-fir forests, mainly along margins or in young or stunted trees; VA [6], but also a report from Mt. Rogers; no summer reports for NC

## REPTILES

*Graptemys geographica* -- Map Turtle

M: large rivers in the Tennessee drainage; VA [2], TN [1]

*Graptemys pseudogeographica* -- False Map Turtle

M: large rivers in the Tennessee drainage; TN [1-2]

*Nerodia cyclopion* -- Green Water Snake

C: streams, lakes, ponds, marshes; SC [2]

*Ophisaurus compressus* -- Island Glass Lizard

TC: maritime or other coastal forests, in dry habitats; SC [2]

*Trionyx ferox* -- Florida Softshell

C: lakes, ponds, rivers; SC [3]

*Trionyx muticus* -- Smooth Softshell

M: large rivers in the Tennessee drainage; TN [??]

## AMPHIBIANS

*Ambystoma cingulatum* -- Flatwoods Salamander

C: flatwoods, bottomlands, swamps; SC [2-3]

*Ambystoma jeffersonianum* -- Jefferson Salamander

M: low woods, bottomlands; VA [2]

*Ambystoma texanum* -- Smallmouth Salamander

M: moist forests; TN [?]; ranges east to central TN

*Eurycea lucifuga* -- Cave Salamander

M: limestone caves and ledges; TN [1], VA [2]

Gyrinophilus palleucus -- Tennessee Cave Salamander  
 M: caves, presumably in limestone areas; TN [1-2]  
 Plethodon hoffmani -- Valley and Ridge Salamander  
 M: montane forests; VA [3-4]  
 Plethodon hubrichti -- Peaks of Otter Salamander  
 M: cool moist woods; VA [2]; endemic to Peaks of Otter Mountain  
 Plethodon websteri -- Webster's Salamander  
 P: moist forests with steep north-facing slopes; SC [4]  
 Pseudobranchius striatus -- Dwarf Siren  
 C: swamps, ponds, other sluggish freshwater habitats; SC [2-3]  
 Rana grylio -- Pig Frog  
 C: lakes, ponds, marshes; SC [2]

## FISHES

The absence in North Carolina of the very large number of Tennessee fishes occurring just over the state line is not an artifact of collecting intensity. Much sampling has occurred in the state near the Tennessee border for such species. The streams where they occur do extend into North Carolina; however, most of the streams where the fishes occur in Tennessee become high gradient near the border, with riffles and rapids preventing the fishes from occurring in North Carolina. A few reservoirs along the state line also block some species from entering the state. On the other hand, there are a number of species that occur within one or two counties of North Carolina that are not listed here; these are fishes in drainages that do not reach North Carolina, particularly the Chattahoochee and the Coosa in Georgia, the Clinch in Tennessee and Virginia, and the James in Virginia.

Alosa chrysochloris -- Skipjack Herring  
 M: Tennessee drainages; TN [1]  
 Cottus baileyi -- Black Sculpin  
 M: Tennessee drainages; TN [1], VA [1-2]  
 Etheostoma caeruleum -- Rainbow Darter  
 M: Tennessee drainages; TN [1]  
 Etheostoma camurum -- Bluebreast Darter  
 M: Tennessee drainages; TN [1]  
 Etheostoma cinereum -- Ashy Darter  
 M: Tennessee drainages; TN [1-2]  
 Etheostoma hopkinsi -- Christmas Darter  
 M: Savannah drainage; SC [1-2]  
 Etheostoma kennicotti -- Stripetail Darter  
 M: Tennessee drainages; TN [1]  
 Etheostoma osburni -- Finescale Saddled Darter  
 M: New drainage; VA [2]  
 Fundulus catenatus -- Northern Studfish  
 M: Tennessee drainages; TN [1]  
 Fundulus notatus -- Blackstripe Topminnow  
 M: Tennessee drainages; TN [1]  
 Fundulus olivaceus -- Blackspotted Topminnow  
 M: Tennessee drainages; TN [1]  
 Gasterosteus aculeatus -- Threespine Stickleback  
 T: tidal waters; VA [2?]  
 Hemitrema flammea -- Flame Chub  
 M: Tennessee drainages; TN [1]  
 Hybognathus nuchalis -- Central Silvery Minnow  
 M: Tennessee drainages; TN [2-3]

*Hybopsis aestivalis* -- Speckled Chub  
     M: Tennessee drainages; TN [1-2]  
*Hybopsis dissimilis* -- Streamline Chub  
     M: Tennessee drainages; TN [1-2]  
*Hybopsis storeriana* -- Silver Chub  
     M: Tennessee drainages; TN [2-3]  
*Hypentelium etowanum* -- Alabama Hog Sucker  
     M: Tennessee drainages; TN [1], GA [1]  
*Ichthyomyzon bdellium* -- Ohio Lamprey  
     M: Tennessee drainages; TN [1]  
*Ichthyomyzon castaneus* -- Chestnut Lamprey  
     M: Tennessee drainages; TN [1]  
*Ichthyomyzon gagei* -- Southern Brook Lamprey  
     M: Tennessee drainages; TN [1-2]  
*Ichthyomyzon greeleyi* -- Allegheny Brook Lamprey  
     M: Tennessee drainages; TN [1]  
*Ictalurus furcatus* -- Blue Catfish  
     M: Tennessee drainages; TN [1]  
*Labidesthes sicculus* -- Brook Silverside  
     M: Tennessee drainages; TN [1-2]  
*Lepisosteus oculatus* -- Spotted Gar  
     M: Tennessee drainages; TN [1-2]  
*Notropis ariommus* -- Popeye Shiner  
     M: Tennessee drainages; TN [1-2]  
*Notropis atherinoides* -- Emerald Shiner  
     M: Tennessee drainages; TN [1]  
*Notropis lirus* -- Mountain Shiner  
     M: Tennessee drainages; TN [1]  
*Notropis stramineus* -- Sand Shiner  
     M: Tennessee drainages; TN [1]  
*Noturus baileyi* -- Smoky Madtom  
     M: Tennessee drainages; TN [1]; apparently endemic to Abrams Creek in Great Smoky Mountains N.P.  
*Noturus leptacanthus* -- Speckled Madtom  
     M: Savannah drainage; SC [1]  
*Percina nigrofasciata* -- Blackbanded Darter  
     M: Savannah drainage; SC [1]  
*Percina rex* -- Roanoke Logperch  
     P: Roanoke and Chowan drainages; VA [1-2]  
*Percina shumardi* -- River Darter  
     M: Tennessee drainages; TN [1-2]  
*Phenacobius uranops* -- Stargazing Minnow  
     M: Tennessee drainages; TN [1]  
*Pimephales promelas* -- Fathead Minnow  
     M: Tennessee drainages; TN [1], VA [1]  
*Pimephales vigilax* -- Bullhead Minnow  
     M: Tennessee drainages; TN [1-2]  
*Scaphirhynchus platyrhynchus* -- Shovelnose Sturgeon  
     M: Tennessee drainages; TN [1-2]

#### BUTTERFLIES

A species marked with the @ symbol is considered to be a Visitor, with breeding occurring elsewhere. Most of these breed to the south of North Carolina and would be expected to occur as a visitor in the warmer months. Otherwise, all other species on this list are presumed to breed in adjacent states.

There are numerous butterfly species whose presently known range extends south in the mountains only to Virginia. Some of these certainly must occur in the northern mountain counties of North Carolina, particularly those not restricted to habitats rare or absent in the state (e.g., shale barrens or limestone outcrops). North Carolina has apparently not had thorough statewide coverage of its Lepidopteran fauna, nor has a book or treatise been published on that fauna of the state. A 1989 unpublished distribution atlas of the Carolinas shows major gaps in county records in North Carolina for the common species, much less the uncommon ones. In summary, there is much to be learned about butterfly distribution in the state, including new species to be added to the state list.

*Amblyscirtes belli* -- Bell's Roadside Skipper

MP: wooded edges and openings, wooded creeks; host plant -- wild oats (*Uniola latifolia*); SC [1] (Oconee and Pickens counties)

*Boloria selene* -- Silver-bordered Fritillary

M: wet meadows, bogs, marshes; host plant -- violets (*Viola*) and other species; VA [2-3]

*Brephidium isophthalma pseudoea* -- Eastern Pygmy Blue

T: tidal flats and marshes; host plant -- glassworts (*Salicornia*), possibly saltwort (*Batis maritima*); SC [3]

*Calephelis borealis* -- Northern Metalmark

M: rocky areas near shale, serpentine, or limestone, usually near streams; host plant -- ragworts (*Senecio*), possibly fleabanes (*Erigeron*); VA [1-2]

*Chlosyne gorgone* -- Gorgone Checkerspot

MPC: open woods, edges, and clearings; host plant -- mostly composites, such as sunflowers (*Helianthus*); SC [1] (Oconee and Pickens counties), GA [1] (Rabun and Union counties)

*Chlosyne harrisii* -- Harris' Checkerspot

M: marshes, damp meadows, and other wet brushy places; host plant -- flat-topped white aster (*Aster umbellatus*); WV [6-7], one record for GA mountains

*Colias interior* -- Pink-edged Sulphur

M: high elevation areas with acidic soils, such as wood margins, openings, and heath balds; host plant -- blueberries (*Vaccinium*); VA [5?]

*Erynnis lucilius* -- Columbine Dusky Wing

M: rich, rocky woods, ravines, and wooded edges; host plant -- wild columbine (*Aquilegia canadensis*); VA [1?]

*Erynnis persius* -- Persius Dusky Wing

M: openings in cool forests, fields or bogs near woods; host plant -- mainly willows (*Salix*), poplars and aspens (*Populus*); VA [1]

*Euchloe olympia* -- Olympia Marble

M: dry or rocky forests, slopes; host plant -- cresses, primarily *Arabis*; TN [1?], VA [1-2]

*Euphyes conspicua* -- Black Dash

CM: marshes, wet meadows, but rarely in bogs; host plant -- sedges, mainly *Carex stricta*; VA [1], SC [3]

*Incisalia polios* -- Hoary Elfin

M: sunny, dry slopes and other barren or rocky habitats; host plant -- heaths, possibly trailing arbutus (*Epigaea repens*) in the Appalachians; VA [2?]

*Leptotes cassius theonus* -- Cassius Blue @

TC: mainly coastal towns, gardens, and residential areas; SC [3]

*Megathymus cofaqui* -- Cofaqui Skipper

MPC: wooded areas, dunes, and other places near yucca; host plant -- yuccas (*Yucca*); GA [1] (Rabun County)

*Phyciodes texana seminole* -- Seminole Crescent

C: near banks of rivers and streams; host plant -- species in the Acanthus family (*Acanthaceae*) such as *Dicliptera*; SC [2]

*Speyeria atlantis* -- Mountain Silver-spot

M: cool, open woods, wooded streams, clearings; host plant -- violets (*Viola*); VA [4-5?]

*Thymelicus lineola* -- European Skipper

MP: grassy areas, pastures, and roadsides; host plant -- timothy (*Phleum pratense*) and other grasses; VA [1], SC [1] (Greenville County) (Introduced from Europe, presumed to occur in NC)

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